Fremont
Building Official
Code Enforcement

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Gas Piping

Information relating to gas piping to one-and two-family residences, residential townhouses, and residential apartment buildings is identified briefly below.

- A permit is required for all gas piping work; to include propane tank placements.

- Steel and Wrought Iron pipe of minimum standard weight (sch40) and corrugated stainless steel tubing (CSST*) are preferred solutions for installations within the residence. Other steel – cast iron, copper, brass, aluminum or aluminum alloys are not permitted. (copper tubing, while permitted by code is not a preferred choice)

Copper tubing may be used as a repair practice to existing copper tubing but should not be used for new installations, expansions or extensions. If inadequate the existing system should be replaced with iron or CSST.

- Plastic pipe, tubing, and fittings shall be used outside underground only. The codes require a yellow insulated copper tracer wire to be installed adjacent to any underground nonmetallic piping.(minimum 14 awg or tape w/continuous foil backing for tracing) and must be brought above ground at the building wall or riser.

- Installation, testing and replacement of gas piping, gas utilization equipment, or accessories and repair and servicing of equipment, shall be performed only by a qualified agency. (directly from NFPA 54 - 4.1) Effective January 2007 the State of New Hampshire required that all fuel gas fitters be licensed by the state. Effective January 2008 sufficient rules were adopted and implemented under SAF-C 8000 to effect full enforcement of this provision and such a license is required to perform any type of work relating to gas installation, service, and/or repair.

- When CSST is the primary method of installation, a distribution manifold at the point of delivery with parallel branch line installations is the preferred practice. For residential installations no short leads or unnecessary couplings are allowed; in most all instances direct feeds are obtainable with a single length pipe without connectors. For residential installations no couplings are allowed in concealed locations (or areas likely to become concealed). A shut-off at each manifold distribution provides the greatest flexibility of use.

- A piping plan showing the proposed location, size of branches, various loads demands, and the location of the point of delivery may be required.

- Pressure testing and the installation of an “approval sticker” is required prior to connection to gas service/tanks. The test pressure used shall be no less than 1 ½ times the operating pressure, but in no case less than 3 psi. Test duration for single family dwelling is a minimum of 10 minutes. Mechanical gauges used for testing shall be such that the scale range cannot be greater than 5 times the test pressure (ex. for a 3 psi test the maximum scale reading on the gauge would be 15 psi or less.)

- As to bonding of CSST piping. Per the manufacturers installation instructions bonding is currently required by all of the manufacturers of CSST. Bonding clamps must be attached to the fittings and not to the pipe directly. Generally the wire sizing for this bonding is accepted as a 6 awg copper bonding jumper. The uniform use of a 6 awg copper bonding wire simplifies the selection and makes for consistent field installations.

- In all cases both NFPA 54 prohibits gas piping being used as a grounding conductor or electrode.

- A shut-off at the service entrance (supply) at the building is required.

- When using CSST piping particular attention to the manufacturers recommended minimum bending radius must be followed. Provide for a 3-6" bend radius depending on pipe size. (½" – ¾" = 3" bend radius, greater than ¾" = 5" bend radius)

- Listed termination outlets are to be installed and secured at all floor and wall piping outlets used for moveable appliances and any quick disconnect devices. The final movable appliance connection (ranges, dryers, etc) shall be made using approved semi-rigid flexible appliance connectors of length not greater than 3 feet.

- A separate switch such as with "Oil Burner Emergency Switch" is expressly prohibited by NFPA 8.6.4.

- This list is not intended to be a complete list but to provide a summary of those items most often asked about.

*CSST is used to transmit gas in residential, commercial and industrial structures. CSS consist of a continuous, flexible, stainless steel pipe, and typically is covered with a yellow exterior plastic coating. In the case of one of the products manufactured by OmegaFlex, called "counterstrike", the product is covered with a black exterior coating with yellow lettering. CSST typically is routed beneath, through and alongside floor joists, inside interior wall cavities and on top of ceiling joist in attic space from a gas source to an appliance. CSST does not include the gas-appliance connecter (e.g. a connector that runs from a gas outlet to an appliance).

Titeflex's CSST product is known as "Gastite", Ward's CSST product is know as "Wardflex", Omegaflex's CSST product is known as "Tracpipe" or "Counterstrike", and Parker Hannifin's CSST product is known as "Parflex". Generally, it is my opinion, that the products is the same/similar and make up the bulk of the CSST product offerings.

Whenever CSST product is used the manufacturers generally specify product specific accessories are to be used; such as specific striker plates (nailing plates), mounting brackets, and specific termination mounts and fittings. Standard nail plates are therefore not allowed.